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10/074,293

02/12/2002

Harry Contopanagos

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11/25/2008

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EXAMINER

ANDUJAR, LEONARDO

ART UNIT

PAPER NUMBER

2826

MAIL DATE

DELIVERY MODE

11/25/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/074,293 | Applicant(s) CONTOPANAGOS ET AL. | |
| | Examiner Leonardo Andújar | Art Unit 2826 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 5, 8, 12-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7 and 9-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02/02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of species VII (claims 1, 2, 4, 6, 7, 9, 10, and 11) in a communication filed on 03/01/2004 is acknowledged. The traversal is on the ground(s) that the restriction is improper because claim 1 is generic. This is not found persuasive because the species are independent or distinct because as disclosed the different species have mutually exclusive characteristics for each identified species. In addition, these species are not obvious variants of each other based on the current record (see MPEP § 808.01(a)). In this case, it is proper to require Applicant under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. There is an examination and search burden for these patentably distinct species due to their mutually exclusive characteristics. The species require a different field of search (e.g., searching different classes/subclasses or electronic resources, or employing different search queries); and/or the prior art applicable to one species would not likely be applicable to another species; and/or the species are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph. To traverse on the grounds that the species are not patentably distinct, the applicant should submit evidence, or identify such evidence in the record, showing the species to be obvious variants, or clearly admit on the record that this is the case. In either case, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or

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6. Regarding claim 3, Zhu teaches that the at least one dielectric layer include one layer and the at least one conductive winding including a spiral winding on the one layer.

7. Regarding claim 6, Zhu teaches a substrate 20 having a major surface parallel to the major surface of the at least one dielectric layer.

8. Regarding claim 9, Zhu (e.g. fig. 4) teaches an on-chip inductor consisting of: at least one dielectric layer (52, 55, 58); at least one conductive winding 59 on the at least one dielectric layer; and field oxide layer (FOX) having a major surface parallel to a major surface of the dielectric layer.

9. Regarding claim 10, Zhu (e.g. fig. 4) teaches P well 28 having a major surface that is juxtaposed to the major surface of the field oxide layer.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 4, 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu et al. (US 6,133,079). In view of Merrill et al. (US 5,610,433)

13. Regarding claim 4, Zhu (e.g. fig. 4) teaches that the at least one dielectric layer includes a plurality of layers (52, 55, 58) but does not show that the at the at least conductive winding 59 includes a plurality of windings on the plurality of layers. However, Merrill (e.g. figs. 1 and 2) teaches multi winding inductor on different levels of the insulating material. The Q factor of the inductor can be increased by including several winding (abstract). In general, inductors having a high Q-factor dissipate less power and thus improve the achievable gain. Further, high Q inductors allow an oscillating circuit to perform with minimal power injection from the driving transistor and hence minimize noise. It would have been obvious to one having ordinary skills in the art to include a plurality of windings on the plurality of layers in the inductor disclosed by Zhu as taught by Merrill to increase the Q factor of the inductor for the benefit of minimizing noise.

14. Regarding claims 7 and 11, Zhu (e.g. fig. 4) does not show that the at the at least conductive winding 59 includes a plurality of windings. However, Merrill (e.g. figs. 1 and 2) teaches multi winding inductor wherein the windings are magnetically coupled. The Q factor of the inductor can be increased by including several winding (abstract). In general, inductors having a high Q-factor dissipate less power and thus improve the achievable gain. Further, high Q inductors allow an oscillating circuit to perform with

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minimal power injection from the driving transistor and hence minimize noise. It would have been obvious to one having ordinary skills in the art to include a secondary winding magnetically coupled to the conductive winding of the inductor disclosed by Zhu as suggested by Merrill to increase the Q factor of the inductor for the benefit of minimizing noise.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonardo Andújar whose telephone number is 571-272-1912. The examiner can normally be reached on Mon through Thu from 9:00 AM to 7:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sue Purvis can be reached on 571-272-1236. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Leonardo Andújar/
Primary Examiner, Art Unit 2826

November 14, 2008